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Non Invasive Imaging

ADVERSE LEFT VENTRICULAR REMODELING DUE TO AORTIC INSUFFICIENCY POST TRANSCATHETER AORTIC VALVE REPLACEMENT AND DOWNSTREAM IMPACT ON ALL-CAUSE MORTALITY

Poster Contributions
Hall C
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Background: Aortic insufficiency (AI) after transcatheter aortic valve replacement (TAVR) is thought to increase mortality via adverse left ventricular (LV) remodeling. The independent prognostic value of LV remodeling above and beyond AI is not well defined.

Methods: We compared the echocardiographic evaluation of LV chamber size and dimensions among consecutive patients undergoing TAVR.

Results: 196 patients underwent TAVR (59% transfemoral, age 85±7, 44% female). 8 patients had at least moderate AI and 26 patients had more than mild AI after TAVR. There were no significant differences in baseline LV systolic and diastolic dimension (LVIDS and LVIDD), ejection fraction (EF) and LV mass index (LVMI) between those with and without AI. After 1.1±0.8 years follow-up, the presence of moderate AI was associated with increased all-cause mortality (1 year mortality 50% versus 22%, log rank p = 0.01), while the presence of more than mild AI was not. Patients with more than mild AI post TAVR had significantly higher LVIDS (4.4±0.8 vs. 3.9±0.8 cm, p=0.004), LVIDD (6.0±0.8 vs. 3.4±0.7 cm, p<0.001), and LVMI (119±21 vs. 107±24 g/m2, p<0.02) 1 month post TAVR, with no significant difference in ejection fraction. These differences persisted in 12 month follow up (p<0.04 for LVIDS and LVIDD respectively, p=0.09 for LV mass index). Baseline and post-TAVR LVIDD, LVIDS, LVMI and LVEF did not independently predict post-TAVR survival above and beyond AI.

Conclusions: AI post TAVR results in adverse LV remodeling and increases mortality. However, the impact of AI on late mortality is not mediated by adverse LV geometric remodeling.